ASSIGNMENT-1

(Q1.) Explain the concept of Object-Oriented Programming (OOP) and its benefits. What is inheritance? Provide a code example in Java.

(Q2.) Write a Java program to calculate the factorial of a number.

(Q3.) Write a Java program to implement a simple calculator.

(Q.4) Write a Java program to perform the multiplication of two matrices.

(Q.5) Write a Java method to compute the determinant of an $N \times N$ matrix using recursion.

(Q.6) Write a Java program to solve a system of linear equations using Cramer's rule.

(Q.7) Write a Java program to find the eigenvalues of a 2x2 matrix and verify the determinant as the product of eigenvalues.